

# **Contaminant Screening Study Libby Asbestos Site, Operable Unit 4 Libby, Montana**

**ADMINISTRATIVE  
RECORD**

**Final Summary Report for the  
Cabinet View Country Club Investigation**

**April 2005**



*Summary Report*

Response Action Contract  
for Remedial, Enforcement Oversight, and Non-Time  
Critical Removal Activities at Sites of Release or  
Threatened Release of Hazardous Substances  
in EPA Region 8

U.S. EPA Contract No. 68-W5-0022

Final Summary Report  
For the Cabinet View Country Club Investigation,  
Contaminant Screening Study,  
Libby Asbestos Site, Operable Unit 4

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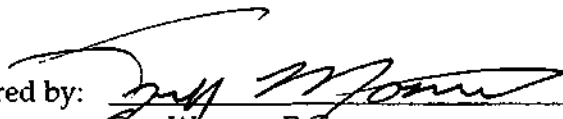
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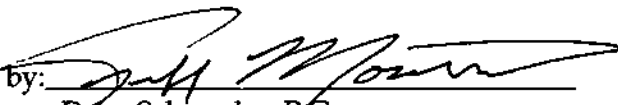
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# Acronyms

bgs	below ground surface
CDM	CDM Federal Programs Corporation
CSF	close-support facility
CSS	contaminant screening study
CVCC	Cabinet View Country Club
EPA	U. S. Environmental Protection Agency
LA	Libby amphibole
OU	operable unit
PLM	polarized light microscopy
QA/QC	quality assurance/quality control
QC	quality control
RI	remedial investigation
SAP	sampling and analysis plan
SRC	Syracuse Research Corporation
VE	visual area estimation
%	percent

# Section 1

## Introduction

The purpose of this report is to summarize contaminant screening study (CSS)/remedial investigation (RI) field activities conducted by CDM Federal Programs Corporation (CDM) at the Cabinet View Country Club (CVCC) in Libby, Montana between June 2004 and December 2004.

Consistent with other areas of Libby, Montana, vermiculite may have been used as base and/or fill material throughout the golf course greens, fairways, tee boxes, and sand traps. Visual inspections were performed and soil samples were collected, to determine if vermiculite and/or Libby amphibole (LA) is present in these areas of the golf course. In addition, an interior inspection of the club house and pump house were performed to determine the presence of vermiculite containing insulation. All investigation activities were conducted in accordance with the Final Sampling and Analysis Plan (SAP), Remedial Investigation (CDM 2003) and Final Sampling and Analysis Plan Addendum for the Cabinet View Country Club (SAP Addendum) (CDM 2004a).

This summary report presents verbal interview information, visual inspection results, site-specific surface soil sampling data, and dust sampling data to be used in RI decision making for CVCC.

## Section 2

### Field Activities

The CVCC investigation consisted of a verbal interview, visual inspection for vermiculite, and surface soil sampling. Unless noted in Section 3.1, all field documentation and sample collection procedures provided or referenced in the SAP Addendum were followed. The following sections summarize the CVCC investigation field activities.

#### 2.1 Verbal Interview

An interview was conducted with CVCC personnel on September 30, 2004 to determine if there were any known locations of visible vermiculite on the CVCC property. During the interview it was stated that some vermiculite was brought in as fill material for tees and greens, and the pump house contained vermiculite used as insulation in an add-on section. There were no other known areas of vermiculite at the CVCC property.

#### 2.2 Visual Inspection

As part of the CVCC investigation the club house and pump house were inspected to determine if vermiculite containing insulation or building materials were present in these structures. The results of these interior inspections are discussed in this section. The primary and secondary structure information field forms filled out during these inspections are included in Appendix A.

The only vermiculite observed during the visual inspections of the club house and the pump house was in the pump house where it appeared to have sifted into the walls of the original section and in half of the attic space at a depth of ½ inch.

In addition, during all soil sampling activities observations were made regarding any vermiculite observed. The specifics of vermiculite observed during soil sampling are discussed in Section 2.3.

#### 2.3 Soil Sampling

Soil sampling at the CVCC was conducted in three separate events: June 2004, September 2004, and December 2004. Each sampling event is discussed in this section. Soil samples were collected, prepared, and analyzed in accordance with procedures presented or referenced in the SAP Addendum.

In total, 76 surface soil samples, 10 subsurface soil samples, and 2 samples from the bunker sand stock pile were collected during this investigation (Figure 1). As applicable to all soil samples collected under the Libby RI program, soil samples were processed at CDM's close support facility (CSF) in Denver in accordance with the soil preparation plan (CDM 2004b) and analyzed for LA asbestos using two techniques:

polarized light microscopy (PLM) visual area estimation (VE) and the PLM gravimetric method (Syracuse Research Corporation [SRC] 2003). The U.S. Environmental Protection Agency (EPA) is in the process of evaluating the accuracy and replicability of each of these methods. However, based on EPA's performance evaluation study to date, PLM-VE results are currently being used to make project remediation decisions. For the purposes of this report, only PLM-VE results are presented.

### **2.3.1 June 2004 Soil Sampling Event**

On June 4, 2004, soil sampling was conducted at the #3 tee box per the EPA's request. CVCC had informed the EPA of impending repairs to the #3 tee box; therefore, EPA requested that CDM determine if LA was present in the tee box before the repairs were made.

Two five-point composite samples (CS-18555 and CS-18556) were collected from the upper and lower tee box, respectively (Figure 1). Both samples were collected from 0-8 inches below ground surface (bgs) and no visible vermiculite was observed in either sample or to an exploratory depth of 12 inches.

Sample CS-18555 collected from the upper tee box had trace amounts of LA (< 0.2 percent [%]) and sample CS-18556 was non-detect for LA. Logbook notes and field sample data sheets are provided in Appendix B, and all soil sample results are presented in Table 1.

### **2.3.2 September 2004 Soil Sampling Event**

During the September 2004 soil sampling event, conducted from September 27<sup>th</sup> to September 30<sup>th</sup>, a total of 41 soil samples were collected. Of these 41 samples, 20 were collected from the course's greens (10 samples from 0-12" bgs and 10 samples from 12-24" bgs), 19 were collected from the course's tees with each sample from 0-8" bgs, and two were collected from the course's stockpile of sand used in the course bunkers. All samples were collected as five-point composite samples except for the samples collected from the sand stockpile, which were grab samples.

Of the 41 samples collected during the September 2004 soil sampling event, 24 field samples and one field duplicate had trace amounts (< 0.2%) of LA. These samples are shown on Figure 1, and summarized in Table 2. All other samples collected during this investigation were non-detect for LA and did not contain any visible vermiculite.

Logbook notes and field sample data sheets are provided in Appendix B, and all soil sample results are presented in Table 1.

### **2.3.3 December 2004 Soil Sampling Event**

Due to the results of the September 2004 sampling event, EPA requested additional samples be collected from the tee and fairway areas at the CVCC. This sampling



event was conducted between December 10, 2004 and December 13, 2004. During this sampling event, 45 grab samples were collected from 0-1" bgs.

Of the 45 samples collected during the December 2004 soil sampling event, 7 samples had trace amounts ( $< 0.2\%$ ) of LA and 2 had concentrations of  $< 1\%$  LA. These samples are shown in Figure 1 and summarized in Table 3. All other samples collected during this investigation were non-detect for LA and did not contain any visible vermiculite.

Vermiculite was not observed or detected in any of the samples collected from the fairways. Logbook notes and field sample data sheets are provided in Appendix B, and all soil sample results are presented in Table 1.

## 2.4 Dust Sampling

During the September 2004 sampling event, one dust sample, CS-18662, was collected from horizontal surfaces and high traffic areas of the pump house during the CVCC investigation. LA was not detected in this sample. Logbook notes and field sample data sheets are provided in Appendix B, and sample results are presented in Table 4.

**Table 2. Summary of Soil Samples Collected in September 2004 that Contain LA.**

Sample Index ID	Hole #	Location	Depth (inches bgs)	LA (%)	Comments on Visible Vermiculite
CS-18621	9	Green	0-12	TR	Vermiculite was observed in the center and eastern subsamples
CS-18623		Men's tee	0-8	TR	Visible tailings materials 4-8"bgs in subsamples
CS-18624		Women's tee	0-8	TR	No visible vermiculite
CS-18625	1	Men's tee	0-8	TR	No visible vermiculite
CS-18627		Green	0-12	TR	No visible vermiculite
CS-18630	2	Tee	0-8	TR	No visible vermiculite
CS-18631		Green	0-12	TR	No visible vermiculite
CS-18632		Green	12-24	TR	No visible vermiculite
CS-18635	3	Green	0-12	TR	No visible vermiculite
CS-18638	4	Green	0-12	TR	No visible vermiculite
CS-18640	5	Men's tee	0-8	TR	No visible vermiculite
CS-18642		Women's tee	0-8	TR	No visible vermiculite
CS-18643		Green	0-12	TR	No visible vermiculite
CS-18645	6	Men's long tee	0-8	TR	No visible vermiculite
CS-18646*		Men's long tee	0-8	TR	No visible vermiculite
CS-18648		Women's tee	0-8	TR	No visible vermiculite
CS-18649	6	Green	0-12	TR	No visible vermiculite
CS-18652	7	Women's tee	0-8	TR	Few vermiculite flakes visible in 1 subsample
CS-18653		Green	0-12	TR	Vermiculite visible 4-8"bgs in 3
CS-18654		Green	12-24	TR	No visible vermiculite
CS-18656	8	Men's tee	0-8	TR	No visible vermiculite
CS-18657		Green	0-12	TR	No visible vermiculite
CS-18658		Green	12-24	TR	No visible vermiculite
CS-18661	1	Tee and practice	0-8	TR	No visible vermiculite

\*Duplicate sample of CS-18645; bgs – below ground surface; TR – trace (<0.2%)

Table3. Summary of Soil Samples Collected in December 20004 that Contain LA .

Sample Index ID	Hole #	Location	Depth (inches bgs)	LA (%)	Comments on Visible Vermiculite
CS-18681	1	Men's tee	0-1	TR	No visible vermiculite
CS-18697	5	Men's tee	0-1	TR	No visible vermiculite
CS-18699		Women's	0-1	TR	No visible vermiculite
CS-18704	6	Men's long	0-1	TR	No visible vermiculite
CS-18705		Men's short	0-1	TR	No visible vermiculite
CS-18706		Women's	0-1	TR	No visible vermiculite
CS-18714	8	Women's	0-1	TR	No visible vermiculite
CS-18718	9	Men's tee	0-1	<1	Vermiculite observed
CS-18719		Women's	0-1	<1	No visible vermiculite

bgs – below ground surface; TR – trace (<0.2%)

## **Section 3**

# **Quality Assurance/Quality Control**

CDM has established a formal quality assurance program to ensure consistently high quality project deliverables under its Response Action Contract with EPA. For work conducted by CDM in Libby, quality assurance/quality control (QA/QC) measures include the collection of quality control (QC) samples (such as soil duplicate samples and equipment blanks), implementation of a laboratory quality assurance program, review of project reports by a CDM-approved quality assurance staff member, and an auditing component to assess the effectiveness of the quality assurance program. The following sections describe deviations from the SAP Addendum and the implications of those deviations on project or data quality objectives.

### **3.1 Deviations from the Sampling and Analysis Plan Addendum**

All requirements detailed in the SAP Addendum were met without exceptions.

### **3.2 Achievement of Data Quality Objectives**

The data quality objectives of this investigation were met.

### **3.3 Data Validation and Reporting**

None of the analytical data contained in this report was further validated beyond that performed by the laboratory as part of their QA/QC program. Therefore, it is assumed that the raw data are useable for their intended purpose, which is to determine the extent of LA asbestos contamination at the CVCC.

## Section 4

# References

CDM. 2003. Final Sampling and Analysis Plan, Remedial Investigation, Libby Asbestos Site, Operable Unit 4. May.

\_\_\_\_\_. 2004a. Sampling and Analysis Plan Addendum for the Cabinet View Country Club. July.

\_\_\_\_\_. 2004b. Close Support Facility, Soil Preparation Plan (Revision No. 1), Libby, Montana Asbestos Project, Sample Processing. March.

SRC. 2003. Analysis of Asbestos Fibers in Soil by Polarized Light Microscopy. SRC-LIBBY-03 (Rev. 0). March 3, 2003.

Table 1 Results of Soil Samples Collected During Investigations at CVCC

Sample ID	Parent ID	Property Group (Location)	Location Description (Sub Location)	Media Type	Matrix	Category	Sample Date	PLM			
								Method	LA Bin	LA (%)	C (%)
CS-18555-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #3 tee-box (upper)	Soil-Like	Surface soil	Field Sample	6/4/2004	PLM-VE	B1	TR	ND
CS-18556-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #3 tee-box (lower)	Soil-Like	Surface soil	Field Sample	6/4/2004	PLM-VE	A	ND	ND
CS-18621-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #9 green	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	B1	TR	ND
CS-18622-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #9 green	Soil-Like	Subsurface soil	Field Sample	9/27/2004	PLM-VE	A	ND	ND
CS-18623-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #9 men's tee	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	B1	TR	ND
CS-18624-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #9 women's tee (combined)	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	B1	TR	ND
CS-18625-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 men's short tee	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	B1	TR	TR
CS-18626-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 women's short tee	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	A	ND	ND
CS-18627-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 green	Soil-Like	Surface soil	Field Sample	9/27/2004	PLM-VE	B1	TR	ND
CS-18628-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 green	Soil-Like	Subsurface soil	Field Sample	9/27/2004	PLM-VE	A	ND	ND
CS-18630-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #2 tee	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18631-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #2 green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18632-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #2 green	Soil-Like	Subsurface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18633-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #11 green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	A	ND	TR
CS-18634-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #11 green	Soil-Like	Subsurface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18635-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #3 green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18636-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #3 green	Soil-Like	Subsurface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18637-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #4 tee box	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18638-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #4 green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18639-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #4 green	Soil-Like	Subsurface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18640-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #5 men's tee	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18641-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #5 women's short tee	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18642-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #5 women's long tee	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18643-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #5 green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18644-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #5 green	Soil-Like	Subsurface soil	Field Sample	9/28/2004	PLM-VE	A	ND	ND
CS-18645-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #6 men's long tee	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND

Table 1 Results of Soil Samples Collected During Investigations at CVCC

Sample ID	Parent ID	Property Group (Location)	Location Description (Sub Location)	Media Type	Matrix	Category	Sample Date	PLM			
								Method	LA Bin	LA (%)	C (%)
CS-18648-FG1	CS-18645	378 Cabinet View Rd - Cabinet View Country Club	Hole #6 men's long tee	Soil-Like	Surface soil	Field Duplicate	9/29/2004	PLM-VE	B1	TR	ND
CS-18647-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #6 men's short tee	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	A	ND	ND
CS-18648-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #6 women's tee box	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18649-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #6 green	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18650-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #6 green	Soil-Like	Subsurface soil	Field Sample	9/29/2004	PLM-VE	A	ND	ND
CS-18651-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #7 men's long tee box	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	A	ND	ND
CS-18652-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #7 Womens short	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18653-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #7 green	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18654-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #7 green	Soil-Like	Subsurface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18655-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #8 women's tee box	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	A	ND	ND
CS-18656-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #8 men's tee box	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18657-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #8 green	Soil-Like	Surface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18658-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #8 green	Soil-Like	Subsurface soil	Field Sample	9/29/2004	PLM-VE	B1	TR	ND
CS-18659-FG1		378 Cabinet View Rd - Cabinet View Country Club	bunker sand pile	Soil-Like	Stockpile	Field Sample	9/29/2004	PLM-VE	A	ND	ND
CS-18660-FG1	CS-18659	378 Cabinet View Rd - Cabinet View Country Club	bunker sand pile	Soil-Like	Stockpile	Field Duplicate	9/29/2004	PLM-VE	A	ND	ND
CS-18661-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 tee box & practice green	Soil-Like	Surface soil	Field Sample	9/28/2004	PLM-VE	B1	TR	ND
CS-18663-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #3 women's tee	Soil-Like	Surface soil	Field Sample	9/30/2004	PLM-VE	A	ND	ND
CS-18681-FG1		378 Cabinet View Rd - Cabinet View Country Club	Hole #1 Tee	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	B1	TR	ND
CS-18682-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #1	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18683-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #1	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18684-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #1	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18685-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #1	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18686-FG1		378 Cabinet View Rd - Cabinet View Country Club	TEE #2	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18687-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #2	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18688-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #2	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18689-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #2	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND

Table 1 Results of Soil Samples Collected During Investigations at CVCC

Sample ID	Parent ID	Property Group (Location)	Location Description (Sub Location)	Media Type	Matrix	Category	Sample Date	PLM			
								Method	LA Bin	LA (%)	C (%)
CS-18690-FG1		378 Cabinet View Rd - Cabinet View Country Club	TEE #3 ladies	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18691-FG1		378 Cabinet View Rd - Cabinet View Country Club	TEE #3 mens	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18692-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #3	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18693-FG1		378 Cabinet View Rd - Cabinet View Country Club	TE #4	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18694-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #4	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18695-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #4	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18696-FG1		378 Cabinet View Rd - Cabinet View Country Club	#4 fairway	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18697-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #5	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	B1	TR	ND
CS-18698-FG1		378 Cabinet View Rd - Cabinet View Country Club	#5 tee	Soil-Like	Surface soil	Field Sample	12/10/2004	PLM-VE	A	ND	ND
CS-18699-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #5	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B1	TR	ND
CS-18700-FG1		378 Cabinet View Rd - Cabinet View Country Club	#5 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18701-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #5	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18702-FG1		378 Cabinet View Rd - Cabinet View Country Club	#5 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18703-FG1		378 Cabinet View Rd - Cabinet View Country Club	#5 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18704-FG1		378 Cabinet View Rd - Cabinet View Country Club	#6 Tee	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B1	TR	ND
CS-18705-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #6	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B1	TR	ND
CS-18706-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #6	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B1	TR	ND
CS-18707-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #6	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18708-FG1		378 Cabinet View Rd - Cabinet View Country Club	#6 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18709-FG1		378 Cabinet View Rd - Cabinet View Country Club	#6 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18710-FG1		378 Cabinet View Rd - Cabinet View Country Club	#7 Tee	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18711-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #7	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18712-FG1		378 Cabinet View Rd - Cabinet View Country Club	#7 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18713-FG1		378 Cabinet View Rd - Cabinet View Country Club	#8 Tee	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND
CS-18714-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #8	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B1	TR	ND
CS-18715-FG1		378 Cabinet View Rd - Cabinet View Country Club	#8 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND	ND



Table 1 Results of Soil Samples Collected During Investigations at CVCC

Sample ID	Parent ID	Property Group (Location)	Location Description (Sub Location)	Media Type	Matrix	Category	Sample Date	PLM				
								Method	LA Bin	LA (%)	C (%)	
CS-18716-FG1		378 Cabinet View Rd - Cabinet View Country Club	Fairway #8	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-18717-FG1		378 Cabinet View Rd - Cabinet View Country Club	#8 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-18718-FG1		378 Cabinet View Rd - Cabinet View Country Club	Tee #9	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B2	< 1		ND
CS-18719-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 Tee	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	B2	< 1		ND
CS-18720-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 drop area	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-20002-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-20003-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-20004-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-20005-FG1		378 Cabinet View Rd - Cabinet View Country Club	#9 fairway	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND
CS-20006-FG1		378 Cabinet View Rd - Cabinet View Country Club	#1 ladies tee	Soil-Like	Surface soil	Field Sample	12/13/2004	PLM-VE	A	ND		ND

## Notes:

## Samples with LA Detected

PLM - polarized light microscopy

VE - visual estimation

LA - Libby amphibole

C - Chrysotile

FG1 - fine ground fraction

TR - Trace

ND - Non-detect

Table 2. Summary of Soil Samples Collected in September 2004 that Contain LA.

Sample Index ID	Hole #	Location	Depth (inches bgs)	LA (%)	Comments on Visible Vermiculite
CS-18621	9	Green	0-12	TR	Vermiculite was observed in the center and eastern subsamples
CS-18623		Men's tee	0-8	TR	Visible tailings materials 4-8"bgs in subsamples
CS-18624		Women's tee	0-8	TR	No visible vermiculite
CS-18625	1	Men's tee	0-8	TR	No visible vermiculite
CS-18627		Green	0-12	TR	No visible vermiculite
CS-18630	2	Tee	0-8	TR	No visible vermiculite
CS-18631		Green	0-12	TR	No visible vermiculite
CS-18632		Green	12-24	TR	No visible vermiculite
CS-18635	3	Green	0-12	TR	No visible vermiculite
CS-18638	4	Green	0-12	TR	No visible vermiculite
CS-18640	5	Men's tee	0-8	TR	No visible vermiculite
CS-18642		Women's tee	0-8	TR	No visible vermiculite
CS-18643		Green	0-12	TR	No visible vermiculite
CS-18645	6	Men's long tee	0-8	TR	No visible vermiculite
CS-18646*		Men's long tee	0-8	TR	No visible vermiculite
CS-18648		Women's tee	0-8	TR	No visible vermiculite
CS-18649	6	Green	0-12	TR	No visible vermiculite
CS-18652	7	Women's tee	0-8	TR	Few vermiculite flakes visible in 1 subsample
CS-18653		Green	0-12	TR	Vermiculite visible 4-8"bgs in 3
CS-18654		Green	12-24	TR	No visible vermiculite
CS-18656	8	Men's tee	0-8	TR	No visible vermiculite
CS-18657		Green	0-12	TR	No visible vermiculite
CS-18658		Green	12-24	TR	No visible vermiculite
CS-18661	1	Tee and practice	0-8	TR	No visible vermiculite

\*Duplicate sample of CS-18645; bgs – below ground surface; TR – trace (<0.2%)

Table 4 Results of Dust Samples Collected During Investigations at CVCC

Sample ID	Property Group (Location)	Sample Group	Location Description (Sub Location)	Media Type	Matrix	Sample Type	Category	Area (cm <sup>2</sup> )	Sample Date	AHERA / ASTM 5755																	
										Filter Status Non Analyzed	Libby Amphiboles ( LA )				Chrysotile ( C )				Other Amphiboles ( OA )				Total Asbestos				
											S<5u	S>5u	Asb load (S/mm2)	Asb conc (Dust = S/cm <sup>2</sup> )	S<5u	S>5u	Asb load (S/mm <sup>2</sup> )	Asb conc (Dust = S/cm <sup>2</sup> )	S<5u	S>5u	Asb load (S/mm2)	Asb conc (Dust = S/cm <sup>2</sup> )	Asbestos Type Identified	S<5u	S>5u	Asb load (S/mm2)	Asb conc (Dust = S/cm <sup>2</sup> )
CS-18662	1260 Cabinet Heights Rd	Pumphouse	Ground floor	Dust	Horizontal surface & high traffic area		Field Sample	300	9/30/2004		0	0	< 258.74	< 332	0	0	< 258.74	< 332	0	0	< 258.74	< 332		0	0	< 260.00	< 330

Notes:

LA- Libby Amphibole  
C- Chrysotile  
OA- Other Amphiboles  
S/mm<sup>2</sup>- structures per millimeter squared

S/cm<sup>2</sup>- structures per centimeter  
cm<sup>2</sup>- centimeter squared  
<- less than

## Section 4

### References

CDM. 2003. Final Sampling and Analysis Plan, Remedial Investigation, Libby Asbestos Site, Operable Unit 4. May.

\_\_\_\_\_. 2004a. Sampling and Analysis Plan Addendum for the Cabinet View Country Club. July.

\_\_\_\_\_. 2004b. Close Support Facility, Soil Preparation Plan (Revision No. 1), Libby, Montana Asbestos Project, Sample Processing. March.

SRC. 2003. Analysis of Asbestos Fibers in Soil by Polarized Light Microscopy. SRC-LIBBY-03 (Rev. 0). March 3, 2003.

## **Section 3**

# **Quality Assurance/Quality Control**

CDM has established a formal quality assurance program to ensure consistently high quality project deliverables under its Response Action Contract with EPA. For work conducted by CDM in Libby, quality assurance/quality control (QA/QC) measures include the collection of quality control (QC) samples (such as soil duplicate samples and equipment blanks), implementation of a laboratory quality assurance program, review of project reports by a CDM-approved quality assurance staff member, and an auditing component to assess the effectiveness of the quality assurance program. The following sections describe deviations from the SAP Addendum and the implications of those deviations on project or data quality objectives.

### **3.1 Deviations from the Sampling and Analysis Plan Addendum**

All requirements detailed in the SAP Addendum were met without exceptions.

### **3.2 Achievement of Data Quality Objectives**

The data quality objectives of this investigation were met.

### **3.3 Data Validation and Reporting**

None of the analytical data contained in this report was further validated beyond that performed by the laboratory as part of their QA/QC program. Therefore, it is assumed that the raw data are useable for their intended purpose, which is to determine the extent of LA asbestos contamination at the CVCC.

# Appendix A

## Verbal Interview Documentation

BD- 004343

**LIBBY ASBESTOS PROJECT**  
**Contaminant Screening Study**  
**Secondary Structure Information Field Form (Secondary IFF)**

Field Logbook No.: 100386 Page No.: 17 Site Visit Date: 9/30/04  
 Address: 1260 Cabaret Heights Rd Structure Description: pumphouse  
 Occupant: CVCC Phone Number: 406.293.2707  
 Owner (if different than occupant): GVE TC 9/30/04 Phone Number: \_\_\_\_\_  
 Business Name: CVCC  
 Sampling Team: Termy Cook / Terry Crowell  
 Field Form Check Completed by (100% of forms): \_\_\_\_\_  
 Screening Field Check Completed by (2% of forms): \_\_\_\_\_

Data Item	Value	Notes
<b>STRUCTURE ATTRIBUTES</b>		
Property Description	Residential Industrial <u>Commercial</u>	<u>pumphouse is located by</u>
Surrounding Land Use	<u>Residential</u> Industrial Commercial School Mining Other: _____	
Year of Construction	<u>pre-1950s</u> <u>Unknown</u>	
Square Footage	<u>240</u>	
Construction Material	Wood frame Masonry/Stone <u>Other cinderblock</u>	
Number of Floors Above Ground	<u>1</u> 2 3 Other: _____	
Number of Rooms Per Floor Above Ground	1: <u>2</u> <u>2</u> TC <u>9/30/04</u> 3: _____ Other: _____	
Basement	Yes <u>No</u>	
Heating Source	Wood/Coal <u>Electric</u> Propane/Gas <u>NA</u> TC <u>9/30/04</u> Other: _____	
Heat Distribution	Forced air <u>Radiant</u> <u>NA</u> TC <u>9/30/04</u> Other: _____	
Was the building remodeled?	Yes <u>No</u>	

## CSS Secondary Structure IFF (continued)

Address: 1260 Cabinet Heights RdBD# BD-004343

Data Item	Value	Notes
<b>CONTAMINANT SCREENING STUDY ASSESSMENT</b>		
<b>Occupant Information</b>		<input type="checkbox"/> Verbal Interview Complete: _____
Is there any knowledge of former miners, close relatives of miners, or any highly exposed persons living or visiting the property?	Yes <u>Unknown</u>	No If unknown, why? - BUSINESS
Is the resident, past or present, diagnosed with an asbestos-related disease?	Yes <u>Unknown</u>	No If unknown, why? - BUSINESS
<b>Indoor Information</b>		<input type="checkbox"/> Indoor Visual Inspection Complete: _____
Does the interior have vermiculite attic insulation?	<u>Yes</u> Unknown	<u>No</u> <sup>TEC</sup> 9/3/04 If unknown, why? Remnant VCI 1/2"
Did the interior ever have vermiculite attic insulation? NA applies if attic currently has VCI	<u>Yes</u> Unknown	No NA If unknown, why?
Are there vermiculite additives in any of the building materials?	Yes Unknown	<u>No</u> If unknown, why? Type and location of building material:
Location of indoor vermiculite (circle all that apply)	<u>Attic</u> <u>Walls</u> Crawl Space None Visual in Living Space: Basement, <u>Ground Floor</u> Second Floor, Attached Garage Other: _____	If in living space, provide specific location: - ATTIC IN NE SECTION - WALLS AROUND ORIGINAL (REMANANT SIFT) SECTION - G/F VISIBLE IN ORIGINAL SECTION
<b>ADDITIONAL INFORMATION (Note any partial access or sample collection issues)</b>		
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 20px;"> <p>Appears There is approx 1/2" OF VCI IN ATTIC</p> </div> </div>		

ORIGINAL

ADD ON



**REVISED**

BD- 004343

= Soil samples collected (Date: \_\_\_\_\_)

**LIBBY ASBESTOS PROJECT**  
**Contaminant Screening Study**  
**Primary Structure and Property Assessment Information Field Form (Primary IFF)**

Field Logbook No.: 100386 Page No.: 17 Site Visit Date: 9/30/04  
 Address: 378 Cabinet View Court, Glendale Structure Description: clubhouse  
 Occupant: CVCC 378 Cabinet View Rd Phone Number: 406-293-2707  
 Owner (if different than occupant): jo 10/7/04 Phone Number: \_\_\_\_\_  
 Business Name: CVCC  
 Sampling Team: Terry Crowell/ Tommy Cook  
 Field Form Check Completed by (100% of forms): \_\_\_\_\_  
 Screening Field Check Completed by (2% of forms): \_\_\_\_\_

Date Item	Value	Notes
<b>HOUSE ATTRIBUTES</b>		
Property Description	Residential Industrial <u>Commercial</u>	
Surrounding Land Use	<u>Residential</u> Industrial Commercial School Mining Other: _____	
Year of Construction	<u>~ 1970s</u> Unknown	
Square Footage	<u>4000</u>	<u>main floor + basement</u>
Construction Material	<u>Wood frame</u> Masonry/Stone Other: _____	
Number of Floors Above Ground	<u>1</u> 2 3 Other: _____	
Number of Rooms Per Floor Above Ground	1: <u>3</u> 2: _____ 3: _____ Other: _____	
Basement	<u>Yes</u> No	
Heating Source	Wood/Coal Electric <u>Propane/Gas</u> Other: _____	
Heat Distribution	<u>Forced air</u> Radiant Other: _____	

## CSS Primary Structure IFF (continued)

Address: \_\_\_\_\_

BD# 004342

Data Item	Value	Notes
<b>OCCUPANT INFORMATION</b>		
Was the residence/building remodeled?	<input checked="" type="radio"/> Yes <input type="radio"/> No If yes, When (years):    <2   2-5   >5 Where: Attic   Living Areas   Garage Basement Other: <u>ADD FEW YEARS LATER</u>	
Has resident/business purchased any Libby vermiculite materials from W.R. Grace in the past?	Yes <input checked="" type="radio"/> No <u>PER BY REP</u>	<u>SOME VERMICULITE BROUGHT IN AS FILL FOR TIES/CREWS</u>
Has the property at this location been used for a for-profit enterprise of distributing, treating, storing, or disposing of Libby vermiculite?	Yes <input checked="" type="radio"/> No	
<b>CONTAMINANT SCREENING STUDY ASSESSMENT</b>		
Occupant Information		<input checked="" type="checkbox"/> Verbal Interview Complete: _____
Is there any knowledge of former miners, close relatives of miners, or any highly exposed persons living or visiting the property?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <u>7/30/04</u> Unknown	If unknown, why?
Is the resident, past or present, diagnosed with an asbestos-related disease?	Yes <input checked="" type="radio"/> No Unknown	If unknown, why?
Indoor Information		<input checked="" type="checkbox"/> Indoor Visual Inspection Complete: _____
Does the interior have vermiculite attic insulation?	Yes <input checked="" type="radio"/> No Unknown	If unknown, why?
Did the interior ever have vermiculite attic insulation?	Yes <input checked="" type="radio"/> No Unknown      NA	If unknown, why?
NA applies if attic currently has VCI		
Are there vermiculite additives in any of the building materials?	Yes <input checked="" type="radio"/> No Unknown	If unknown, why?  Type and location of building material:

Address: \_\_\_\_\_

BD# 004342

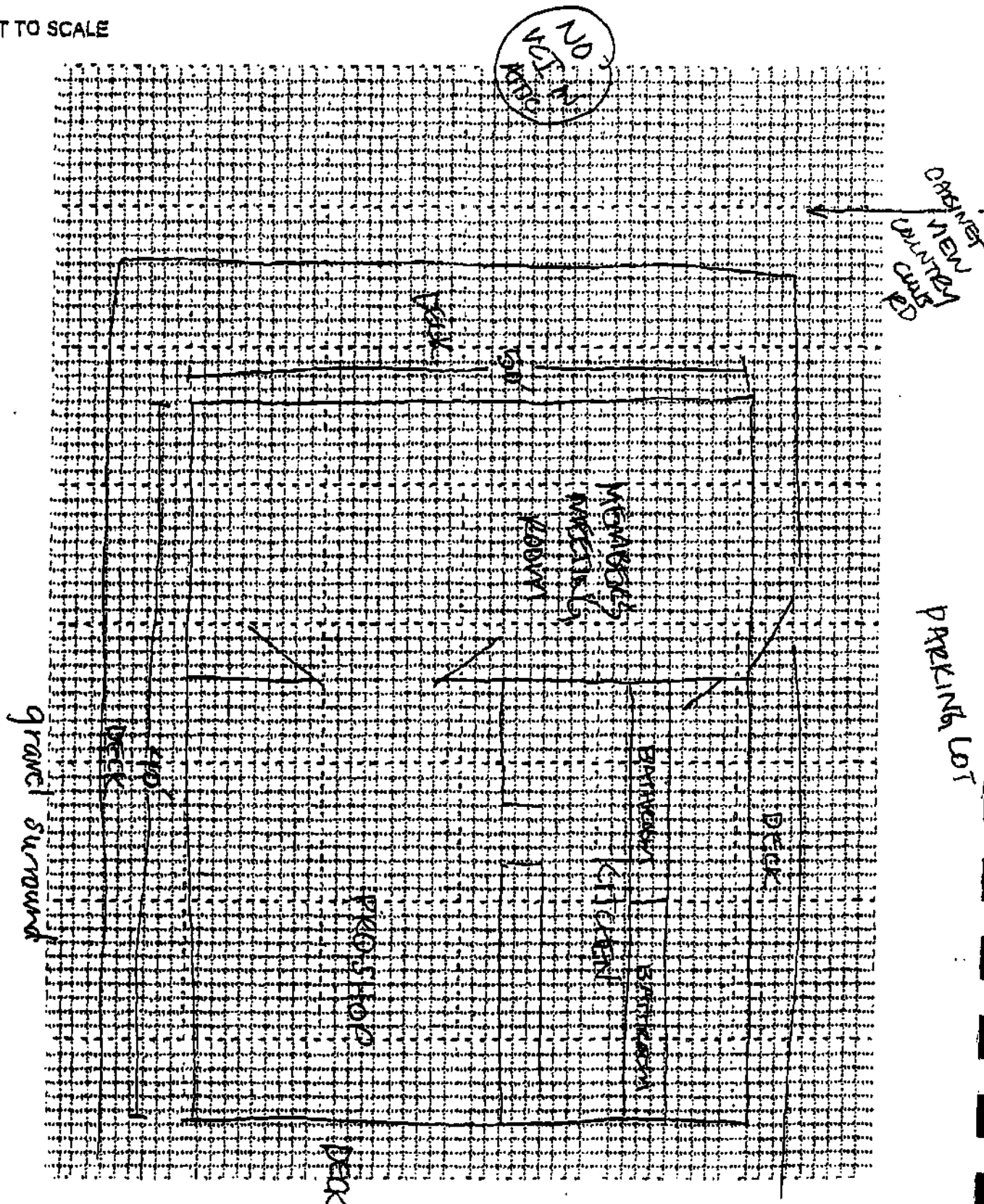
Data Item	Value	Notes
Location of indoor vermiculite (circle all that apply)	Attic Walls Crawl Space <u>None</u> Visual in Living Space: Basement, Ground Floor, Second Floor, Attached Garage Other: _____	If in living space, provide specific location:
Outdoor Information		<input type="checkbox"/> Outdoor Visual Inspection Complete: _____
Location of outdoor vermiculite (circle all that apply)	Driveway Flowerbed Garden Yard Former Flowerbed Former Garden Stockpile <u>None</u> Other <u>House 9, 1, 7 @ depth</u>	<u>See LOGBOOK AND PSDS FOR ADDL INFO</u>
Overall Assessment Complete: _____ <input checked="" type="checkbox"/> Reconnaissance (Verbal Interview, Indoor, Outdoor Inspection)		
Are primary source materials present at the property?	<u>Yes</u> No	- Pump House HAS VCI - UNDER #9 DE, #1 TEE
Where are primary source materials located?	Inside <u>Both</u> Outside NA	NA applies if no primary source materials are located at the property.
ADDITIONAL INFORMATION (Note any partial access or sample collection issues) <u>VERMICULITE OBSERVED ONLY AT DEPTH. THERE WAS A FEW FLAKES OBSERVED ON THE SURFACE OF HOUSE 3 &amp; E SANDPIT ON E SIDE.</u>		

Address: 378 Cabinet View Country Club Rd

BD# 004342

Identify important features (i.e. drainage, trees, gardens, structures, flowerbeds, utility poles, known underground utilities, suspected Libby amphibole source areas, sample locations, etc). Include north arrow.

NOT TO SCALE



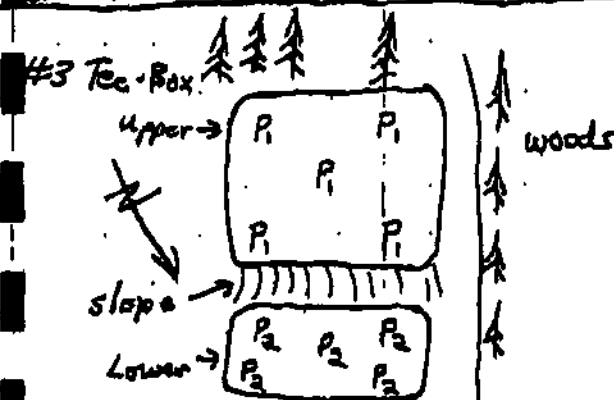
**Appendix B**  
**Field Log Notes and**  
**Field Sample Data Sheets**

# June 2004 Sampling Event

Location Cabinet View Country Club Date 6-4-04 77  
 Project / Client Libby Asbestos US EPA Region 5  
Cabinet View Country Club

0902: Arrive @ golf course to conduct soil sampling on the hole #3 tee-box. All work IAW CSS SAP Revision 1, 2003. B. Sharp (author) and T. Serti on site. No L.V. is observed in the soils of the upper or lower teebox at hole #3. The material in question was obviously micaceous native sand, produced from glacial deposits. Soil samples on FSDS-000164 are as follows:

Property (P1)	CS-18555	Hole #3
Upper tee-box	SP-124957	
Property (P2)	CS-18556	Hole #3
Lower tee-box	SP-124958	



CA 04 (TRANQUIL) 11.1

Sheet No.: S- 000164

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100329 Page No: 77 Sampling Date: 6-4-04  
 Address: 328 Cabinet View Rd. Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Golf Course  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC ODM Other \_\_\_\_\_ Names: B. Shoup, Tony Sesti

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18555</b>	<b>CS- 18556</b>	
Location ID	<b>SP- 124957</b>	<b>SP- 124958</b>	
Sample Group	<u>Property (P<sub>1</sub>)</u>	<u>Property (P<sub>2</sub>)</u>	
Location Description (circle) -	Back yard Front yard Side yard Driveway Other <u>#3 tee-box (upper)</u>	Back yard Front yard Side yard Driveway Other <u>#3 tee-box (lower)</u>	Back yard Front yard Side yard Driveway Other _____
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	Grab <u>Comp</u> # subsamples <u>5</u>	Grab <u>Comp</u> # subsamples <u>5</u>	Grab Comp. # subsamples _____
Sample Time	<u>0922</u>	<u>0930</u>	
Top Depth (in.)	<u>0</u>	<u>0</u>	
Bottom Depth (in.)	<u>8</u>	<u>8</u>	
Field Comments Note if vermiculite is visible in sampled area	BD- <u>NA</u> <u>No L.V. observed in sample</u>	BD- <u>NA</u>	BD- _____
Entered (LFO) _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by BS

QC by \_\_\_\_\_



# September 2004 Sampling Event

"Outdoor writing products for outdoor writing people."



# TRANSIT

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9/27/04 -

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Libby, MT 59923 406-283-8595

Every Page

Initial and Date every page, Sign and Date last entry of the day.  
Line out once, initial and date all changes, NO blank lines

Daily Entries

Author, Date & Time, Weather, Activities, Persons on team  
Level of PPE, Title of Governing Document

CRRAP=Comprehensive Residential Removal Action Plan  
RAWP=Response Action Work Plan

SS=Scott Supernaugh  
TEC=Tommy Cook  
SO=Shawn Oliveira  
GP=Greg Parana  
TC=Tony Crowell  
DK=Dean Korzowski  
TV=Tom Vanderweert  
KB=Karen Berry  
DS=Dave Spielman

Clear Vinyl Protective Slipcovers (Item No. 90) are available for this style of notebook.  
Newer product available for 1992 & 1993.

# CONTENTS

PAGE	REFERENCE	DATE
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2-9	CVC6 SOIL SAMPLING/CSS INWS.	9/27-30/91
-----	------------------------------	------------

2

# CARNET VIEW COUNTRY CLUB (CVC) 9/27/04

THE PURPOSE OF THIS LOGBOOK IS TO DOCUMENT THE SAMPLING AND INVESTIGATIVE EFFORTS AT THE CARNET VIEW COUNTRY CLUB, HEREON REFERRED TO AS CVC, INCLUDING SOIL SAMPLING AND VISUAL INSPECTIONS. THE SAMPLING TEAM WILL CONSIST OF TWO (2) CDM FIELD TEAM MEMBERS, THOMAS COOK (ATHEP) AND TERRY CREWELL. IN ADDITION, 2 CVC EMPLOYEES WILL BE ACCOMPANYING COOK AND CREWELL DURING SOIL SAMPLING TO REPAIR HOUSES DAMAGED DURING EXCAVATION. ALL INVESTIGATION ACTIVITIES WILL BE DONE IN ACCORDANCE WITH (IAN) THE FINAL SAMPLING AND ANALYSIS PLAN. REMEDIATION INVESTIGATION CONTINUING SEARCHING STUDY, REASON 1, MAY 2003.

CREWELL AND I TOGETHER ALL FIELD SAMPLING WITH 5 TUBES PER SAMPLING. 9C 0842. LEAVE CDM OFFICE AND GO TO SPONSOR FOR NEW SUPPLIES. NEED TO GO BY NEXT PREPARATION SHOP TO REPAIR EQUIPMENT. 9C 0900. LEAVE CDM OFFICE. VISIT COUNTRY CLUB (CVC). TALK WITH RAN REPP AND MIKE.

*[Signature]*

# 9/27/04 CVC

0830. ARRIVE COCK (CREWELL) AT THE CDM OFFICE. THE OLD STIMSON FACILITY TO GATHER FIELD SAMPLING SUPPLIES AND EQUIPMENT. PLANNED TO REPAIR HEADGASKETS AND SAFETY EQUIPMENT AND SUBSEQUENT SOIL EXCAVATION EQUIPMENT. SUBSEQUENT SOIL SAMPLES WILL BE EXTRACTED USING A HAND-DRIVEN GEOPHONE. VACUUM LINES WILL BE USED REPER 9/27/04 TO MINIMIZE GROUND CONTAMINATION. COMPARE SOIL SAMPLES WITH RE MIXED IN A METAL SAMPLES BOX. AS OUTLINED IN THE FINAL SAMPLING AND ANALYSIS PLAN, REMEDIATION INVESTIGATION CONTINUING SEARCHING STUDY, REASON 1, MAY 2003.

CREWELL AND I TOGETHER ALL FIELD SAMPLING WITH 5 TUBES PER SAMPLING. 9C 0842. LEAVE CDM OFFICE AND GO TO SPONSOR FOR NEW SUPPLIES. NEED TO GO BY NEXT PREPARATION SHOP TO REPAIR EQUIPMENT. 9C 0900. LEAVE CDM OFFICE. VISIT COUNTRY CLUB (CVC). TALK WITH RAN REPP AND MIKE.

*[Signature]*

4

CULC		9/27/04
COVER PRO BEGINS THE SAMPLING EVENT.		
1100 - LEAVE CLUBHOUSE FOR HOLE #9.		
1124 COVER CS-18621, HOLE 9 GREEN		
SOIL SAMPLE 0-12" - VISUALLY VERMIL. IN UPPER		
3 INCHES. SEE PDS S-000518 FOR ADD. INFO.		
1124 COVER CS-18622, HOLE 8 RECORDING		
GREEN SUBSURFACE 12-14" NO VISUAL VERMIL		
1340 COVER CS-18623 FROM HOLE 9 MENS TEE		
SEE PDS S-000518 FOR ADD. INFO. - 25C		
* SEE THE FOLLOWING INFORMATION REGARDING		
SAMPLE COLLECTION:		
TIME	INDEX ID	DESCRIPTION
1440	CS-18624	S-000519 HOLE 9, WOMEN'S TEE
1520	CS-18625	HOLE 1, MEN'S TEE
1550	CS-18626	HOLE 1, WOMEN'S TEE
1630	CS-18627	S-000520 HOLE 9 GREEN
1650	CS-18628	HOLE 1 GREEN
FVD - ENHANCED DAYS WORK CONTINUED SOIL		
SAMPLES, LEAVE SITE FOR DAY. NO FURTHER		
IN PDS		

9/28/04

CULC

0730 CALL AND CANCEL HOLE #9. THE		CULC	
COMBINE CULC IS THE ACTUAL.		THE WEATHER IS ~45°F → 80°F, CLEAR.	
10 DAYS ACTIVITIES WILL BE CONTINUING. SAMPLE		ACTIVITIES AT CULC. SEE PG 2 FOR CONT.	
TRANSPORTS.		25C	
0800 - LEAVE C. CULC, MEET JAY + MIKE		LEAD UP GOLF CART FOR SAMPLING.	
TIME	INDEX ID	PDS	DESCRIPTION
0820	CS-18630	S-000521	HOLE 2 TEE
0849	CS-18631	↓	HOLE 2 GREEN
0849	CS-18632	↓	HOLE 2 GREEN
0949	CS-18633	S-000522	HOLE 11 GREEN
0949	CS-18634	↓	HOLE 11 GREEN
1035	CS-18635	↓	HOLE 3 GREEN
1035	CS-18636	S-000523	HOLE 3 GREEN
1225	CS-18637	↓	HOLE 4 TEE
1258	CS-18638	↓	HOLE 4 GREEN
1258	CS-18639	S-000524	HOLE 4 GREEN
1353	CS-18640	↓	HOLE 5 TEE
1420	CS-18641	↓	HOLE 5 TEE
1450	CS-18642	S-000525	HOLE 5 TEE
1545	CS-18643	↓	HOLE 5 TEE
1545	CS-18644	↓	HOLE 5 GREEN
1630 OFFSITE		HOLE 5 GREEN	

J. Smith

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CONTINUING SAMPLES		9/28/04	9/28/04
TIME	INDEX ID	FSDS	DESCRIPTION
0730	CS-18645	S-000526	HOLE 6 MENS TEE LOT
0840	CS-18646	↓	HOLE 6 MENS TEE LOT
0855	CS-18647	↓	HOLE 6 MENS TEE LOT
0918	CS-18648	S-000527	HOLE 6 MENS TEE LOT
1005	CS-18649	↓	HOLE 6 GREEN
1005	CS-18650	↓	HOLE 6 GREEN
1037	CS-18651	S-000528	HOLE 7 MENS LOT
1117	CS-18652	↓	HOLE 7
1202	CS-18653	↓	HOLE 7 GREEN
1202	CS-18654	S-000529	HOLE 7 GREEN
1250	BREAK FOR LUNCH		

CONTINUING SAMPLES		9/29/04	9/29/04
TIME	INDEX ID	FSDS	DESCRIPTION
1330	CS-18655	S-000529	HOLE 8 TEE BOX
1425	CS-18656	"	HOLE 8 MENS
1516	CS-18657	S-000530	HOLE 8 GREEN
1516	CS-18658	↓	HOLE 8 GREEN
1530	CS-18659	↓	8 BUNKER SAND
1530	CS-18660	S-000531	8 BUNKER SAND
1542	CS-18661	"	HOLE 8 TEE BOX
1558	CS-18662	9/29/04	9/29
1600	GO BACK TO CLUBHOUSE AND RETURN		
1645	SAMPLE CAMPS		
1645	OFFS. 10		

*[Signature]*

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9/30/04 C.V.C.C.

0730- CAR AND DRIVER ARRIVE AT COM OFFICE.  
TODAY'S ACTIVITIES WILL BE TO CONTINUE  
SAMPLE ACTIVITIES FOR THE C.V.C.C. OFFICE  
Weather is ~ 45°F → 88°F CLEAR/SUNNY  
PPE- MONITOR LEVEL D. ————  
COURTESY DOCUMENT IS LISTED ON PG. 2  
- 750- LOAD UP CAR AND HEAD TO C.V.C.C.  
- 0815- MEET REMP AND DRIVER. discuss THAT  
TODAY WE WILL BE INSPECTING BUILDINGS  
AND COURTHOUSE. STAND FINISH SAMPLING  
TODAY ————  
0912- Collect CS-18663 SOIL HELP'S WINTER  
SEE FSDS- S-000588 FOR ADDL INFO.  
0930- ARRIVE @ BUILDINGS & PERFORM A  
SECONDARY IFF. ASSIGNED RD-094345.  
SEE IFF FOR ADDL INFO VCI REMAINS  
ORGANIZED ————  
DIS. SAMPLES ARE COLLECTED IN THE  
FINDING ROOMS OF THE PUMP HOUSE.  
SEE FSDS D-000238 FOR ADDL INFO  
0949 Collect CS-18662 DUST SAMPLE  
3:00 CONFERENCE FROM PUMP HOUSE. ————  
1113- CHECK OTHER BUILDING FOR VCI

9/30/04 C.V.C.C.

THE EQUIPMENT SHOW AND CUB CARP  
SHOWS SHOW DOES NOT COME ON VCI.  
UNABLE TO CONTACT S&P STAFF FROM  
DRAINING LOT BECAUSE IT IS  
PHASED WITH CHOP-GATEL ON T.P. ————  
NO VISIBLE VERMILION. ————  
TOUR AROUND GOLF COURSE TO INSPECT  
SUSPICIOUS AREAS (I.E. MOUNDS, UTILITY  
BOXES, ETC.) NO VERMILION  
OBSERVED ————  
3:00 LUNCH ————  
3:45, ARRIVE BACK AT C.V.C.C. CUB  
PLACE TOP PARENT CES INSPECTION.  
- Collect IFF FOR CUB HOUSE ASSIGN  
RD-004342 NO VCI OBSERVED. ————  
SEE IFF FOR DETAILS ON VERMILION  
VERMILION ON THE CURSE ————  
5:15 LEAVE C.V.C.C. AND HEAD TO COM  
OFFICE TO DEBRIEF STAFF.  
- 6:15 Collect CS-18664 - S&P SAND  
EQUIPMENT BLANK ————  
- 6:45- DEBRIEF STAFF TO P. STONE  
SHIP EQUIPMENT OFFICE. SAMPLING  
COMPLETE. NO FURTHER ENTRIES.

Sheet No.: S- 000578

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 4 Sampling Date: 9/27/04  
 Address: 379 Cabinet View Country Club Rd Owner/Tenant: Cabinet View Country Club (CVCC)  
 Business Name: CVCC  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18621 <i>R</i>	CS- 18622 <i>R</i>	CS- 18623 <i>R</i>
Location ID	SP- 125861	SP-125861	SP-125862
Sample Group	property	property	property
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #9 Green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #9 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #9 men's tee</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> 0-12" <u>Other</u> _____	<u>Surface Soil</u> 12-14" <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> _____
Type (circle)	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>
Sample Time	1124	1124	1340
Top Depth (in.)	0	12	0
Bottom Depth (in.)	12	24	8
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> visible in upper. 3" <i>N</i> <i>•</i> <i>•</i> <i>see map</i>	BD _____ none visible in any subsamples	BD- <u>→</u> visible tailings material 4-8" depth - see map for visible in subsamples
Entered (LFO) <i>JB</i>	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____

*33*  
 @ = visible in subsample on map

For Field Team Completion  
 (Provide initials)

Completed by TC

QC by JEC



Sheet No.: S- 000518

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 5 Sampling Date: 9/27/04  
 Address: 378 Cabinet View Country Club Rd Owner/Tenant: Cabinet View Country Club (CVCC)  
 Business Name: CVCC

Land Use: Residential School Commercial Mining Roadway Other ( )

Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Tommy Cook / Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18624</b> <i>TC</i>	<b>CS- 18625</b> <i>TC</i>	<b>CS- 18626</b> <i>TC</i>
Location ID	<u>SP-125863</u> <i>9/27/04</i>	<u>SP-125864</u> <i>9/27/04</i>	<u>SP-125865</u> <i>9/27/04</i>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #9</u> <u>women's tee</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #1</u> <u>men's short tee</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #1</u> <u>women's short tee</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	Grab <u>Comp.</u> # subsamples <u>5</u>	Grab <u>Comp.</u> # subsamples <u>5</u>	Grab <u>Comp.</u> # subsamples <u>5</u>
Sample Time	<u>1440</u>	<u>1520</u>	<u>1550</u>
Top Depth (in.)	<u>0</u> <i>8 TC 9/27/04</i>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>8</u>	<u>8</u>	<u>8</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004322</u> <u>none visible in any subsamples</u> <u>see map</u>	BD- _____ <u>see map</u>	BD- _____ <u>see map</u>
Entered (LFO) <i>JS</i>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

Sheet No.: S- 006520

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 7 Sampling Date: 9/27/04Address: 378 Cabaret View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18627</b>	<b>CS- 18628</b>	<b>CS- 18629</b>
Location ID	<u>SP-125866</u>	<u>SP-125866</u>	
Sample Group	<u>property</u>	<u>property</u>	
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #1 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #1 green</u>	Back yard Front yard Side yard Driveway <u>Other</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> _____
Type (circle)	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples _____
Sample Time	<u>1650</u>	<u>1650</u>	
Top Depth (in.)	<u>0</u>	<u>12</u>	
Bottom Depth (in.)	<u>12</u>	<u>24</u>	
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u>  none visible in any subsamples.	BD- _____	BD- _____
Entered (LFO) <u>js</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

TC

QC by

PC

Sheet No.: S- CLCC

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 8 Sampling Date: 9/28/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other Names: Terry Council / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18630</b> <u>2</u>	<b>CS- 18631</b> <u>2</u>	<b>CS- 18632</b> <u>2</u>
Location ID	<u>9/28/04</u> <b>SP-125867</b>	<u>9/28/04</u> <b>SP-125868</b>	<u>9/28/04</u> <b>SP-125868</b>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #2 tree</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #2 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #2 green</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> <u>Other</u> <u>subsurface</u>
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>
Sample Time	<u>0820</u>	<u>0849</u>	<u>0849</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>12</u>
Bottom Depth (in.)	<u>8</u>	<u>12</u>	<u>24</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>02422</u> <u>009342</u> <u>no visible vermiculite in any subsamples</u>	BD- _____	BD- _____
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

TC

QC by

TEL

Sheet No. S- 000522

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 8 Sampling Date: 9/28/04Address: 378 Cabinet View Country Club Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<u>CS- 18633</u> <u>7</u>	<u>CS- 18634</u> <u>7</u>	<u>CS- 18635</u> <u>7</u>
Location ID	<u>SP-125869</u>	<u>SP-125869</u>	<u>SP-125870</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #11 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #11 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #3 green</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> _____
Type (circle)	Grab <u>Comp</u> # subsamples <u>5</u>	Grab <u>Comp</u> # subsamples <u>5</u>	Grab <u>Comp</u> # subsamples <u>5</u>
Sample Time	<u>0949</u>	<u>0949</u>	<u>1035</u>
Top Depth (in.)	<u>0</u>	<u>12</u>	<u>0</u>
Bottom Depth (in.)	<u>12</u>	<u>24</u>	<u>12</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>no visible vermiculite in any subsamples</u> →	BD- _____	BD- _____
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)Completed by TRQC by TR

Sheet No.: S- 000520

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 9 Sampling Date: 9/28/04  
 Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCC  
 Business Name: CVCC  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18636</b>	<b>CS- 18637</b>	<b>CS- 18638</b>
Location ID	<u>SP-125870</u>	<u>SP-125871</u>	<u>SP-125872</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #3 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #4 trebox</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #4 green</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> _____
Type (circle)	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>
Sample Time	<u>1035</u>	<u>1225</u>	<u>1258</u>
Top Depth (in.)	<u>12</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>24</u>	<u>8</u>	<u>12</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>00434C</u> no visible vermiculite in any subsamples →	BD- _____	BD- _____
Entered (LFO) <u>JP</u>	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____	Volpe: _____ Entered _____ Validated _____

 For Field Team Completion  
 (Provide Initials)

Completed by

TC

QC by

TBC

Sheet No : S- 00052

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 101386 Page No: 10 Sampling Date: 9/28/04  
 Address: 378 Cabernet View Country Club Rd Owner/Tenant: CVCC  
 Business Name: CVCC  
 Land Use: Residential ☐ School ☐ Commercial ☒ Mining ☐ Roadway ☐ Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18639</b> <i>z</i>	<b>CS- 18640</b> <i>z</i>	<b>CS- 18641</b> <i>z</i>
Location ID	<u>SP-125872</u> <i>9/28/04</i>	<u>SP-125873</u> <i>9/28/04</i>	<u>SP-125874</u> <i>9/28/04</i>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #4 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #5 mens tee</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #5 womens short tee</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> _____
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>
Sample Time	<u>1258</u>	<u>1353</u>	<u>1420</u>
Top Depth (in.)	<u>12</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>24</u>	<u>8</u>	<u>8</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>5043 42</u>  <u>NO</u> <u>VISIBLE</u> <u>VERMICULITE</u>	BD- _____	BD- <u>→</u>
Entered (LFO) <i>ops</i>	Voips: Entered _____ Validated _____	Voips: Entered _____ Validated _____	Voips: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)Completed by TZQC by TC

Sheet No.: S-000525

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 10 Sampling Date: 9/28/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other Other Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18642</b> <i>2 9/28/04</i>	<b>CS- 18643</b> <i>2 9/28/04</i>	<b>CS- 18644</b> <i>2 9/28/04</i>
Location ID	<u>SP-125875</u>	<u>SP-125876</u>	<u>SP-125876</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #5 women's lounge</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #5 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #5 green</u>
Category (circle)	<u>ES</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> <u>Subsurface soil</u>
Type (circle)	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>
Sample Time	<u>1450</u>	<u>1545</u>	<u>1545</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>12</u>
Bottom Depth (in.)	<u>8</u>	<u>12</u>	<u>24</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>no visible vermiculite in any subsamples</u>	BD- _____	BD- _____
Entered (LFO) <i>JP</i>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

Sheet No.: S- 000523

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 10 Sampling Date: 9/29/04Address: 378 Cabernet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Tommy Cook / Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18645</b>	<b>CS- 18646</b>	<b>CS- 18647</b>
Location ID	SP-125877	SP-125877	SP-125878
Sample Group	property	property	property
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #6</u> <u>men's long tee</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #6</u> <u>men's long tee</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #6</u> <u>men's short tee</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> <u>9/29/04</u> FD of <u>CS-18645</u> Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>
Sample Time	0832	<u>9/29/04</u> 0833 0846	0855
Top Depth (in.)	0	0	0
Bottom Depth (in.)	8	8	8
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>No visible vermiculite</u>	BD- _____	BD- _____
Entered (LFO) <u>TC</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____



Sheet No.: S- 000527

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 11 Sampling Date: 9/29/04Address: 378 Cabinet/Country Club Rd Owner/Tenant: CVCCBusiness Name: view CVCCLand Use: Residential ☐ School ☐ Commercial ☒ Mining ☐ Roadway ☐ Other ( ) ☐Sampling Team: MACTEC CDM Other ☐ Names: Terry Cronelly/Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18648</b> <u>9/29/04</u>	<b>CS- 18649</b> <u>9/29/04</u>	<b>CS- 18650</b> <u>9/29/04</u>
Location ID	<u>SP-125879</u>	<u>SP-125880</u>	<u>SP-125880</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole # 6 women's restroom</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole # 6 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole # 6 green</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> <u>SUBSURFACE SOIL</u>
Type (circle)	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp.</u> # subsamples <u>5</u>
Sample Time	<u>0918</u>	<u>1005</u>	<u>1005</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>12</u>
Bottom Depth (in.)	<u>8</u>	<u>12</u>	<u>24</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>No visible vermiculite</u>	BD- _____	BD- <u>2</u>
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

Sheet No.: S- 000523**REVISED****LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL**Field Logbook No: 100386 Page No: 11 Sampling Date: 9/29/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential ☐ School ☐ Commercial ☒ Mining ☐ Roadway ☐ Other ( ) ☐Sampling Team: MACTEC CDM Other ☐ Names: Thomas Cook / Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18651</b>	<b>CS- 18652</b>	<b>CS- 18653</b>
Location ID	<u>SP-125881</u>	<u>SP-125882</u>	<u>SP-125883</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>Hole #7 tree box</u>	Back yard Front yard Side yard Driveway Other <u>Hole #7 Woman's shirt</u>	Back yard Front yard Side yard Driveway Other <u>Hole #7 tree green</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>
Sample Time	<u>1037</u>	<u>1117</u>	<u>1202</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>8</u>	<u>8</u>	<u>13</u>
Field Comments Note if vermiculite is visible in sampled area	BD. <u>004342</u>	BD. _____ trace (few flakes) visible in 1 sub-sample. collected additional subsample	BD. _____ visible in 4-8" layer in 3 subsamples
Entered (LFO) <u>js</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

to follow per Ray Kemp in area suspect of containing vermiculite fill

For Field Team Completion  
(Provide Initials)

Completed by

TC

QC by

TEC

Sheet No.: S- 000520

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 17 Sampling Date: 9/29/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC ZDM Other Other Names: Tommy Cook/Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18654</b> <i>12/29/04</i>	<b>CS- 18655</b> <i>12/29/04</i>	<b>CS- 18656</b> <i>12/29/04</i>
Location ID	<b>SP-125883</b>	<b>SP-125884</b>	<b>SP-125885</b>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>Hole #7 green</u>	Back yard Front yard Side yard Driveway Other <u>women's Hole #8 toolbox</u>	Back yard Front yard Side yard Driveway Other <u>Hole #8 man's toolbox</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other <u>subsurface soil</u>	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>
Sample Time	<u>1202</u>	<u>1357</u>	<u>1425</u>
Top Depth (in.)	<u>12</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>24</u>	<u>8</u>	<u>8</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>no visible vermiculite in any subsamples</u>	BD- _____	BD- _____
Entered (LFO) <i>JS</i>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)Completed by JSQC by TE

Sheet No.: S- 000550

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 12 Sampling Date: 9/29/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Tommy Cook/Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<b>CS- 18657</b> ✓	<b>CS- 18658</b> ✓	<b>CS- 18659</b> ✓
Location ID	<u>SP-125886</u>	<u>SP-125886</u>	<u>SP-125887</u>
Sample Group	<u>property</u>	<u>property</u>	<u>property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #8 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>Hole #8 green</u>	Back yard Front yard Side yard Driveway <u>Other</u> <u>bunker sand pile</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>ES</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> <u>Other</u> _____	<u>Surface Soil</u> <u>Other</u> <u>subsurface soil</u>	<u>Surface Soil</u> <u>Other</u> <u>stockpile</u>
Type (circle)	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples <u>5</u>	<u>Grab</u> <u>Comp</u> # subsamples _____
Sample Time	<u>1516</u>	<u>1516</u>	<u>1530</u>
Top Depth (in.)	<u>0</u>	<u>12</u>	<u>Bottom WA</u>
Bottom Depth (in.)	<u>12</u>	<u>24</u>	<u>NA</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u>  <u>no visible vermiculite seen in any subsamples</u> →	BD- _____  →	BD- _____  <u>stockpile used for filling all bunkers</u>
Entered (LFO) <u>ps</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

Far Field Team Completion  
(Provide initials)Completed by TCQC by TC

Sheet No.: S- 000568

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 13 Sampling Date: 9/29/04Address: 378 Cabinet View Country Club Rd Owner/Tenant: CVCCBusiness Name: CVCCLand Use: Residential School Commercial Mining Roadway Other ( )Sampling Team: MACTEC CDM Other Names: Tommy Cook / Terry Crowell

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS-18660 ✓	CS-18661 ✓	CS-18663 * ✓
Location ID	SP-125887	SP-125888	SP-125889
Sample Group	property	property	property
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>bunker sand pit</u>	Back yard Front yard Side yard Driveway Other <u>Hole #1 tee box &amp; practice green</u>	Back yard Front yard Side yard Driveway Other <u>Hole #3 women's tee</u>
Category (circle)	FS FD of <u>CS-18659</u> Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	Surface Soil Other <u>stockpile</u>	Surface Soil Other _____	Surface Soil Other _____
Type (circle)	Grab Comp. # subsamples _____	Grab Comp. # subsamples <u>5</u>	Grab Comp. # subsamples <u>5</u>
Sample Time	<u>1530</u>	<u>1542</u>	
Top Depth (in.)	<u>NA</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>NA</u>	<u>8</u>	<u>8</u>
Field Comments Note if vermiculite is visible in sampled area	BD- _____ <u>no vermiculite</u>	BD- _____	BD- _____ * SAMPLE DATE ON THIS SAMPLE IS <u>9/30/04</u>
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

Sheet No.: S- 000570

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100386 Page No: 14 Sampling Date: 9/30/04  
Address: NA Owner/Tenant: NABusiness Name: NALand Use: Residential School Commercial Mining Roadway Other ( NA )Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Terry Crowell / Tommy Cook

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<u>CS-18664</u>		
Location ID	<u>AD-000001</u>		
Sample Group	<u>BLANK</u>		
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>NA</u>	Back yard Front yard Side yard Driveway Other <u>9/30/04</u>	Back yard Front yard Side yard Driveway Other <u>9/30/04</u>
Category (circle)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	Surface Soil Other <u>silica sand</u>	Surface Soil Other _____	Surface Soil Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	Grab Comp. # subsamples _____	Grab Comp. # subsamples _____
Sample Time	<u>1615</u>		
Top Depth (in.)	<u>NA</u>		
Bottom Depth (in.)	<u>NA</u>		
Field Comments Note if vermiculite is visible in sampled area	BD- <u>NA</u>	BD- _____	BD- _____
Entered (LFO) <u>js</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____



Sheet No.: D- 000296

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100386 Page No: 16 Sampling Date: 9/30/04  
 Address: 1260 Cabinet Heights Rd Owner/Tenant: CVCC (Leases pump house)  
 Business Name: CVCC  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC ZDM Other Names: Tommy Cook/Terry Howell

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	<b>CS- 18662</b>		
Location ID	<b>BD-004343</b>		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, <u>Pump House</u> Other	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description point within the location)	Basement, <u>Ground Floor</u> , Second Level Other	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	<u>Horizontal Surfaces</u> <u>High Traffic Areas</u> Other	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	<u>FS</u> FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm <sup>2</sup> ) (circle)	100 200 <u>300</u> NA	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	<u>25mm</u> 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	<u>TEM-.45</u> PCM-.0.8	TEM-.45 PCM-.0.8	TEM-.45 PCM-.0.8
Flow Meter Type (circle)	Rotometer <u>Dry-Cal</u> NA	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	<u>691405</u>		
Flow Meter ID No.	<u>6242</u> <u>70909</u> <u>9/30/04</u> <u>3380</u>		
Start Time	<u>0949</u> <u>0952</u> <u>0956</u>		
Start Flow (L/min)	<u>2.02</u> →		
Stop Time	<u>0957</u> <u>0954</u> <u>0958</u>		
Stop Flow (L/min)	<u>2.02</u> →		
Pump Fault? (circle)	<u>No</u> Yes	No Yes	No Yes
Field Comments	100 cm <sup>2</sup> <u>N ROOM</u> <u>TOP OF ELECTRIC</u> <u>PANEL ON NE WALL</u> 100 cm <sup>2</sup> <u>N ROOM, FLOOR</u> <u>BY NW WALL</u> 100 cm <sup>2</sup> <u>S ROOM ON FLOOR</u> <u>BY NE WALL</u> Archive Blank (circle): Yes <u>No</u>	100 cm <sup>2</sup> 100 cm <sup>2</sup> 100 cm <sup>2</sup> Archive Blank (circle): Yes No	100 cm <sup>2</sup> 100 cm <sup>2</sup> 100 cm <sup>2</sup> Archive Blank (circle): Yes No
Entered (LFO) <u>js</u> <u>yh</u>	Volpe: Entered Validated	Entered Validated	Entered Validated

For Field Team Completion

Completed by: TCChecked by: TC



Sheet No.: D- 000297

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR DUST

Field Logbook No: 100386 Page No: 17 Sampling Date: 9/30/04  
 Address: NA Owner/Tenant: CVCC NA 9/30/04  
 Business Name: CVCC NA 9/30/04  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other Names: Tommy Cook / Terry Crowell

Data Item	Cassette 1	Cassette 2	Cassette 3
Index ID	<b>CS- 18665</b>		
Location ID	<u>BD-004343</u> <u>BLANK</u> <u>JB 10/1/04</u>		
Sample Group (circle) (Subgroup of the property)	Garage, House, Shed, Pump House Other <u>BLANK</u>	Garage, House, Shed, Pump House Other	Garage, House, Shed, Pump House Other
Location Description (circle) (Detailed description points within the location)	Basement, Ground Floor, Second Level Other <u>TLB 9/30/04 NA</u>	Basement, Ground Floor, Second Level Other	Basement, Ground Floor, Second Level Other
Matrix Type (circle)	Horizontal Surfaces High Traffic Areas Other <u>NA</u>	Horizontal Surfaces High Traffic Areas Other	Horizontal Surfaces High Traffic Areas Other
Category (circle)	FS (FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)	FS FB-(field blank) LB-(lot blank)
Sample Area (cm <sup>2</sup> ) (circle)	100 200 300 <u>NA</u>	100 200 300 NA	100 200 300 NA
Filter Diameter (circle)	<u>25mm</u> 37mm	25mm 37mm	25mm 37mm
Pore Size (circle)	<u>TEM-.45</u> PCM- 0.8	TEM-.45 PCM- 0.8	TEM-.45 PCM- 0.8
Flow Meter Type (circle)	Rotometer Dry-Cal <u>NA</u>	Rotometer Dry-Cal NA	Rotometer Dry-Cal NA
Pump ID No.	<u>NA</u>		
Flow Meter ID No.			
Start Time			
Start Flow (U/min)			
Stop Time			
Stop Flow (L/min)			
Pump Fault? (circle)	No Yes <u>NA</u>	No Yes	No Yes
Field Comments	100 cm <sup>2</sup> 100 cm <sup>2</sup> 100 cm <sup>2</sup> Archive Blank (circle): Yes <u>No</u>	100 cm <sup>2</sup> 100 cm <sup>2</sup> 100 cm <sup>2</sup> Archive Blank (circle): Yes No	100 cm <sup>2</sup> 100 cm <sup>2</sup> 100 cm <sup>2</sup> Archive Blank (circle): Yes No
Cassette Lot Number: <u>23802</u>			
Entered (LFO) <u>JB</u>	Volpe: Entered Validated	Entered Validated	Entered Validated

# December 2004 Sampling Event

100404

"Outdoor writing products for outdoor writing people."



# TRANSIT

All-Weather Notebook

LIBBY ASBESTOS PROJECT

*Removal Oversight*

11-29-04 to  
**208 VANDERWOOD RD.**  
**378 CABINET VIEW RD.**  
**208 BOTTMAN DR.**

*Cabinet View CC View Rd*  
*378 Cabinet View Rd*



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Libby Asbestos Project  
CDM Contractor Logbook

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Scott Suprenant  
90 Post Boulevard, Suite 201  
Libby, MT 59923  
406-293-8585

**Every Page:**

- Initial and date every page, sign and date last entry of the day. Line out once, initial and date all changes. NO blank lines.

**Daily Entries**

- Address, date & time, weather, activities, persons on team, level of PPE, list of governing document.

CDM-Comprehensive Residential Removal Action Plan  
RAWP-Response Action Work Plan

**Residential Removal Oversight Equipment**

Small shovel, 4x6 and 9x12 poly sample bags, 5 gallon buckets; radio, cell phone, camera, SKC low flow air pumps, high flow air pumps, Rotometer, 20" box fan, 1 hp leaf blower, air pump stands, tygon tubing, 0.8um PCM cassettes, GFIC splitters, soil probes.

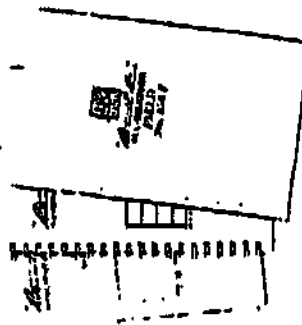
**Air Clearance Procedures:**

Prior to sampling a 1-hp leaf blower will be used to blow down the sample area. Air sampling pumps will be pre and post calibrated. During sampling a 20" box fan will be placed in the center of the sample area facing the ceiling-running on high.

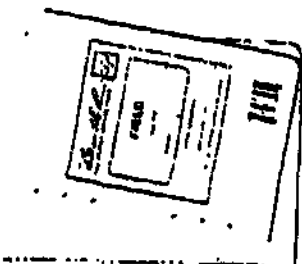
GIRA-General Information for Response Action



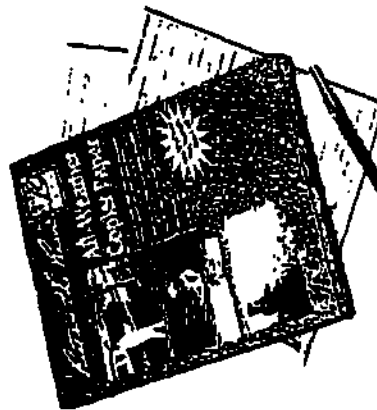
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Loose Leaf / Binders



Copy Paper / All-Weather Pens



Memo Books

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PAGE	CONTENTS	DATE
1	T.O.C.	11-29-04
2	208 VANDERWOOD RD	12-2-04
3	↓	↓
4	↓	↓
5	↓	↓
6	↓	↓
7	↓	↓
8	378 CABINET VIEW RD	12-10-04
9	↓	↓
10	↓	↓
11	↓	↓
12	BLANK	12-14-04
13	208 BOTHMAN DR	12-15-04
14	↓	↓
15	↓	↓
16	↓	↓
17		
18		

# Libby asbestos Project CDM Contract Logbook

## Return to:

Scott Supermough  
60 Port Boulevard, Suite 201  
Libby, MT 59923  
406-243-4505

## Every Page:

- Initial and date every page, sign and date last entry of the day. Line out once, initial and date all changes. NO black lines.
- Daily Entries
- Author, date & time, weather, activities, persons on team, level of PPE, title of governing document.

## CDRAP-Comprehensive Residential Remedial Action Plan RAWP-Response Action Work Plan

### Air Clearance Procedures:

- Prior to sampling a 1-hp leaf blower will be used to blow down the sample area. Air sampling pumps will be pre and post calibrated. During sampling a 20" box fan will be placed in the center of the sample area facing the ceiling-running on high.

### GIRA-General Information for Response Action

#### Residential Removal Oversight Equipment

- Small shovel, 4x6 and 9x12 poly sample bags, 5 gallon buckets, radio, cell phone, camera, SKC low flow air pumps, high flow air pumps, Rotometer, 20" box fan, 1 hp leaf blower, air pump stands, tygon tubing, 0.8um PCM cassettes, GFIC splitters, soil probes.

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378 CABINET VIEW RD. 12-10-04  
 SOIL SAMPLING L.O.#10434 VOLPE/EPH  
 OWN: CABINET VIEW COUNTRY CLUB CDM: TOM V.  
 AUTHOR: TOM VASDEWATER, WEATHER IS 34°+RAIN  
 @ 0929. ACTIVITIES ARE SOIL SAMPLING WITH  
 MRS. HALLERBACK. PPE: CLOTH. TIES OF  
 GOLF DOGS ON PG. 48. EQUIP USED: MP. 48.  
 GPS WORK DONE ON 12-9-04. TV  
 13/51 - HERE TO SOIL SAMPLE TV

CS- 18681	SP- 126441	FSDS#S	12-10-04
CS- 18682	SP- 126442	000405	
CS- 18683	SP- 126443		
CS- 18684	SP- 126444	FSDS#S	
CS- 18685	SP- 126445	000406	
CS- 18686	SP- 126446		
CS- 18687	SP- 126447	FSDS#S	
CS- 18688	SP- 126448	000407	
CS- 18689	SP- 126449		
CS- 18690	SP- 126450	FSDS#S	
CS- 18691	SP- 126451	000499	
CS- 18692	SP- 126452		

T.V. 12/10/04

CS- 18693	SP- 126453	FSDS#S	12-10-04
CS- 18694	SP- 126454	000501	
CS- 18695	SP- 126455		
CS- 18696	SP- 126456	FSDS#S	
CS- 18697	SP- 126457	000502	
CS- 18698	SP- 126458		
CS- 18699	SP- 126459	FSDS#S	
CS- 18700	SP- 126460	000503	
CS- 18701	SP- 126461		
CS- 18702	SP- 126462	FSDS#S	12-13-04
CS- 18703	SP- 126463	000504	
CS- 18704	SP- 126464		
CS- 18705	SP- 126465	FSDS#S	
CS- 18706	SP- 126466	000505	
CS- 18707	SP- 126467		

T.V. 12/10/04

378 CABINET VIEW RD. LO.# 100404 12-13-04  
SOIL SAMPLING VOLPG/CPA  
CON: CABINET VIEW C.C. CON: CON/VAL

CS- 18708	SP- 126468	TV	CS- 20004	SP- 126483	TV
CS- 18709	SP- 126469	TV	CS- 20005	SP- 126484	TV
CS- 18710	SP- 126470	TV	CS- 20006	SP- 126485	TV
CS- 18711	SP- 126471	TV	ACTION FOR SAMPLING, WHETHER IS 170% CLEAN @ 0.05% ACTIVITIES ARE SOIL SAMPLING MECHANICAL BACK ASS'ING. ARE LOOSE D. TITLED OF GOV DOCS ON PG 48. EQUIP USED ON PG 48.		
CS- 18712	SP- 126472	TV	05/05 - HERE TO CONTINUE SOIL SAMPLING 4/27 - DONE WITH SOIL SAMPLING. TV 1315 - ALL. IN OFFICE TO DOUGLAS ✓ SEAL SOIL SAMPLES.		
CS- 18713	SP- 126473	TV	1530 - PARTY STRONG IMPROVED METHOD SAMPLES NEED TO BE RE-LABELLED TO CS FROM 18.		
CS- 18714	SP- 126474	TV	FINISH RE-LABELLING & CHANGING IR #s ON GPS HANDLED TO CS MORNING OF 12-14-04.		
CS- 18715	SP- 126475	TV			
CS- 18716	SP- 126476	TV			
CS- 18717	SP- 126477	TV			
CS- 18718	SP- 126478	TV			
CS- 18719	SP- 126479	TV			
CS- 18720	SP- 126480	TV			
CS- 20002	SP- 126481	TV			
CS- 20003	SP- 126482	TV			

TV 12/10/04

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 8 Sampling Date: 12/10/04  
 Address: 378 CABINET VIEW RD Owner/Tenant: CABINET VIEW COUNTRY CLUB  
 Business Name: CABINET VIEW COUNTRY CLUB  
 Land Use: Residential School Commercial Mining Roadway Other:  
 Sampling Team: MACTEC CDM Other: Names: VANDERWEE/HULLENBECK

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<u>CS- 18681</u>	<u>CS- 18682</u>	<u>CS- 18683</u>
Location ID	<u>SP- 126441</u>	<u>SP- 126442</u>	<u>SP- 126443</u>
Sample Group	<u>PROPERTY</u>	<u>PROPERTY</u>	<u>PROPERTY</u>
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>TEE #1</u>	Back yard Front yard Side yard Driveway Other <u>FAIRWAY</u>	Back yard Front yard Side yard Driveway Other <u>FAIRWAY</u>
Category (circle)	<u>ES</u> FD of _____ Field Blank (lot or equipment)	<u>ES</u> FD of _____ Field Blank (lot or equipment)	<u>ES</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	<u>1330</u>	<u>1333</u>	<u>1340</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>1</u>	<u>1</u>	<u>1</u>
Field Comments (Note if vermiculite is visible in sampled area)	<u>BD- 004342</u> <u>NO LV seen</u>	<u>BD- 004342</u> <u>NO LV seen</u>	<u>BD- 004342</u> <u>NO LV seen</u>
	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by



## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 8 Sampling Date: 12/10/04  
 Address: 378 CABINET VIEW RD Owner/Tenant: CABINET VIEW COUNTRY CLUB  
 Business Name: CABINET VIEW COUNTRY CLUB  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: VANDERWEELE/HALLENBECK

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18684	CS- 18685	CS- 18686
Location ID	SP- 126444	SP- 126445	SP- 126446
Sample Group	PROPERTY	PROPERTY	PROPERTY
Location Description (circle)	Back yard Front yard Side yard #1 Driveway Other <u>FAIRWAY</u>	Back yard Front yard Side yard #1 Driveway Other <u>FAIRWAY</u>	Back yard Front yard Side yard Driveway Other <u>TEE #2</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1343	1347	1351
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> No LV seen	BD- <u>004342</u> No LV seen	BD- <u>004342</u> No LV seen
Entered (LFO) <u>jk</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by jk

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 8 Sampling Date: 12/10/04  
 Address: 378 CABINET VIEW RD Owner/Tenant: CABINET VIEW COUNTRY CLUB  
 Business Name: CABINET VIEW COUNTRY CLUB  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: VANDERWEELE / HOLLENBECK

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18687	CS- 18688	CS- 18689
Location ID	SP- 126447	SP- 126448	SP- 126449
Sample Group	PROPERTY	PROPERTY	PROPERTY
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>FAIRWAY</u> #2	Back yard Front yard Side yard Driveway Other <u>FAIRWAY</u> #2	Back yard Front yard Side yard Driveway Other <u>FAIRWAY</u> #2
Category (circle)	<u>ES</u> FD of _____ Field Blank (lot or equipment)	<u>ES</u> FD of _____ Field Blank (lot or equipment)	<u>ES</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1355	1400	1404
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- 004342 No LV seen	BD- 004342 No LV seen	BD- 004342 No LV seen
Entered (LFO) <u>MD</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by go

Sheet No.: S- 000455

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 8 Sampling Date: 12/10/04  
 Address: 378 CABINET VIEW RD Owner/Tenant: CABINET VIEW COUNTRY CLUB  
 Business Name: CABINET VIEW COUNTRY CLUB  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: VANDERWEELE / HALLENBECK

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18690	- CS- 18691	CS- 18692
Location ID	SP- 126450	SP- 126451	SP- 126452
Sample Group	PROPERTY	PROPERTY	PROPERTY
Location Description (circle)	Back yard #3 ladies Front yard Side yard Driveway Other <u>TEE</u>	Back yard #3 Mens Front yard Side yard Driveway Other <u>TEE</u>	Back yard #3 Front yard Side yard Driveway Other <u>FAIRWAY</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1417	1411	1416
Top Depth (in.)	0	0	0
Bottom Depth (in.)			
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by JP

Sheet No. S- ~~006501~~

## LIBBY FIELD SAMPLE DATA SHEET (FSDs) FOR SOIL

Field Logbook No: 100404 Page No: 9 Sampling Date: 12/10/04  
 Address: 378 CABINET VIEW RD. Owner/Tenant: CABINET VIEW COUNTRY CLUB  
 Business Name: CABINET VIEW COUNTRY CLUB  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other Names: VANDERWEEL/HALLENBECK

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS 18693	CS- 18694	CS- 18695
Location ID	SP- 126453	SP- 126454	SP- 126455
Sample Group	PROPERTY	PROPERTY	PROPERTY
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>TEE #4</u>	Back yard Front yard Side yard <u>#4</u> Driveway Other <u>FAIRWAY</u>	Back yard Front yard Side yard <u>#4</u> Driveway Other <u>FAIRWAY</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1428	1431	1434
Top Depth (In.)	0	0	0
Bottom Depth (In.)			
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by JP

Sheet No.: S- 000502

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 9 Sampling Date: 12/10/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel / Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18696 <i>MDH 12/10/04</i>	CS- 18697 <i>MDH 12/10/04</i>	CS- 18698 <i>MDH 12/10/04</i>
Location ID	SP- 126456	SP- 126457	SP- 126458
Sample Group	Property	Property	Property
Location Description (circle)	Back yard #4 Fairway Front yard Side yard Driveway Other <u>Tee</u> <i>MDH 12/10/04</i>	Back yard Front yard Side yard Driveway Other <u>Tee #5</u>	Back yard #5 Tee Front yard Side yard Driveway Other <u>Fairway</u> <i>MDH 12/10/04</i>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	<u>1439</u>	<u>1443</u>	<u>1448</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>1</u>	<u>1</u>	<u>1</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> No LV seen	BD- <u>004342</u> No LV seen	BD- <u>004342</u> No LV seen
Entered (LFO) <u>yp</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by yp

Sheet No.: S- 000503

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL MDH

Field Logbook No: 10040A Page No: 9 Sampling Date: 12/10/04 12/10/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel / Hollenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<u>1CS- 18699</u> <u>MDH 12/10/04</u>	<u>CS- 18700</u> <u>MDH 12/10/04</u>	<u>CS- 18701</u> <u>MDH 12/10/04</u>
Location ID	<u>SP- 126459</u>	<u>SP- 126460</u>	<u>SP- 126461</u>
Sample Group	<u>Property</u>	<u>Property</u>	<u>Property</u>
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other Tee #5</u>	Back yard Front yard #5 Fairway Side yard Driveway <u>Other Tee #5</u>	Back yard Front yard Side yard Driveway <u>Other Fairway #5</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	<u>1451</u>	<u>1455</u>	<u>0853</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>1</u>	<u>1</u>	<u>1</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>NO LV seen</u>	BD- <u>004342</u> <u>NO LV seen</u>	BD- <u>004342</u> <u>NO LV seen</u>
Entered (LFO) <u>76</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by NO

Sheet No.: S- 000504

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 10040A Page No: 9 Sampling Date: 12/10/04 <sup>MDH</sup> 12/13/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel/Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18702 <sup>MDH 12/10/04</sup>	CS- 18703 <sup>MDH 12/10/04</sup>	CS- 18704 <sup>MDH 12/10/04</sup>
Location ID	SP- 126462	SP- 126463	SP- 126464
Sample Group	Property	Property	Property
Location Description (circle)	Back yard Front yard #5 Fairway Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard Front yard #5 Fairway Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard Front yard #6 Tee Side yard Driveway <u>Other Fairway</u> <sup>MDH 12/10/04</sup>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	0857	0902	0903
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>0043A2</u> NO LV SEEN	BD- <u>0043A2</u> NO LV SEEN	BD- <u>0043A2</u> NO LV SEEN
Entered (LFO) <u>JB</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC JB

Sheet No.: S- 000505

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL M.D.H.

Field Logbook No: 100404 Page No: 9 Sampling Date: 12/10/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other Names: Vanderweel / Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18705	CS- 18706	CS- 18707
Location ID	SP- 126465	SP- 126466	SP- 126467
Sample Group	Property	Property	Property
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>Tee #6</u>	Back yard Front yard Side yard Driveway Other <u>Tee #6</u>	Back yard Front yard Side yard Driveway Other <u>Fairway #6</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	0920	0924	0934
Top Depth (In.)	0	0	0
Bottom Depth (In.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by JP



Sheet No.: S-000503

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 10 Sampling Date: 12/10/04 <sup>MDH</sup>  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel / Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	<u>CS- 18708</u> <sup>MDH 12/10/04</sup>	<u>CS- 18709</u> <sup>MDH 12/10/04</sup>	<u>CS- 18710</u> <sup>MDH 12/10/04</sup>
Location ID	<u>SP- 126468</u> <sup>MDH 12/10/04</sup>	<u>SP- 126469</u> <sup>MDH 12/10/04</sup>	<u>SP- 126470</u> <sup>MDH 12/10/04</sup>
Sample Group	<u>Property</u>	<u>Property</u>	<u>Property</u>
Location Description (circle)	Back yard #6 Firway Front yard Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard #6 Firway Front yard Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard #7 Tee Front yard Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless otherwise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	<u>0933</u>	<u>0944</u>	<u>0944</u>
Top Depth (In.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (In.)	<u>1</u>	<u>1</u>	<u>1</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>No LV seen</u>	BD- <u>004342</u> <u>No LV seen</u>	BD- <u>004342</u> <u>No LV seen</u>
Entered (LFO) <u>jb</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by jb

Sheet No.: S- 000507LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL <sup>MDH</sup>

Field Logbook No: 100404 Page No: 10 Sampling Date: 12/10/04 <sup>12/13/04</sup>  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other (\_\_\_\_)  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel/Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18711 <sup>MDH 12/10/04</sup>	CS- 18712 <sup>MDH 12/10/04</sup>	CS- 18713 <sup>MDH 12/10/04</sup>
Location ID	SP- 126471 <sup>MDH 12/10/04</sup>	SP- 126472 <sup>MDH 12/10/04</sup>	SP- 126473 <sup>MDH 12/10/04</sup>
Sample Group	Property	Property	Property
Location Description (circle)	Back yard Front yard Side yard Driveway Other <u>Tee #7</u>	Back yard #7 Front yard Side yard <u>Fairway</u> Driveway <sup>MDH 12/10/04</sup> Other <u>Tee</u>	Back yard #8 Tee Front yard Side yard Driveway <sup>MDH 12/10/04</sup> Other <u>Fairway</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	0952	0956	1022
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV SEEN	BD- <u>004342</u> NO LV SEEN	BD- <u>004342</u> NO LV SEEN
Entered (LFO) <u>yo</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC yo

Sheet No.: S- 000503

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL MDH

Field Logbook No: 100404 Page No: 10 Sampling Date: 12/10/04 12/13/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel/Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18714	CS- 18715	CS- 18716
Location ID	SP- 126474	SP- 126475	SP- 126476
Sample Group	Property	Property	Property
Location Description (circle)	Back yard Front yard Side yard Driveway <u>Other Tee #8</u>	Back yard Front yard Side yard Driveway <u>Other Tee #8 Fairway</u>	Back yard Front yard Side yard Driveway <u>Other Fairway #8</u>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1036	1030	1034
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen
Entered (LFO) <u>10</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by 10

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL MDH

Field Logbook No: 100404 Page No: 10 Sampling Date: 12/10/04 12/13/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel/Hallenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18717 MDH 12/10/04	CS- 18718 MDH 12/10/04	CS- 18719 MDH 12/10/04
Location ID	SP- 126477	SP- 126478	SP- 126479
Sample Group	Property	Property	Property
Location Description (circle)	Back yard Front yard #8 Fairway Side yard Driveway Other Tee MDH 12/10/04	Back yard Front yard Side yard Driveway Other Tee #9	Back yard #9 Tee Front yard Side yard Driveway Other Fairway MDH 12/10/04
Category (circle)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)	FS FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	Surface Soil Other _____	Surface Soil Other _____	Surface Soil Other _____
Type (circle)	Grab Comp. # subsamples _____	Grab Comp. # subsamples _____	Grab Comp. # subsamples _____
Sample Time	1039	1047	1053
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD-004342 No LV seen	BD-004342 MDH 12/13/04 No LV seen VCS	BD-004342 No LV seen
Entered (LFO) <u>yo</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide Initials)

Completed by

QC by yo

Sheet No.: S- 000511

## LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL

Field Logbook No: 100404 Page No: 10 Sampling Date: 12/10/04 <sup>MDH</sup> 12/13/04  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential School Commercial Mining Roadway Other ( )  
 Sampling Team: MACTEC CDM Other \_\_\_\_\_ Names: Vanderweel / Hellenbeck

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 18720 <sup>MDH 12/10/04</sup>	CS- 20002 <sup>MDH 12/10/04</sup>	CS- 20003 <sup>MDH 12/10/04</sup>
Location ID	SP- 126480 <sup>MDH 12/10/04</sup>	SP- 126481 <sup>MDH 12/10/04</sup>	SP- 126482 <sup>MDH 12/10/04</sup>
Sample Group	Property	Property	Property
Location Description (circle)	Back yard #9 drop area Front yard Side yard Driveway Other <u>Tee</u> <sup>MDH 12/10/04</sup>	Back yard #9 Front yard Fairway Side yard Driveway Other <u>Tee</u> <sup>MDH 12/10/04</sup>	Back yard Front yard Side yard Driveway Other <u>Fairway</u> <sup>#9</sup>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other wise noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	1059	1103	1103
Top Depth (in.)	0	0	0
Bottom Depth (in.)	1	1	1
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen	BD- <u>004342</u> NO LV seen
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by JP

Sheet No.: S- 000512LIBBY FIELD SAMPLE DATA SHEET (FSDS) FOR SOIL <sup>(MDH)</sup>

Field Logbook No: 100404 Page No: 11 Sampling Date: 12/10/04 <sup>12/13/04</sup>  
 Address: 378 Cabinet View Rd Owner/Tenant: Cabinet View Country Club  
 Business Name: Cabinet View Country Club  
 Land Use: Residential ☐ School ☐ Commercial ☐ Mining ☐ Roadway ☐ Other ( ) ☐  
 Sampling Team: MACTEC CDM Other ☐ Names: Hellenbeck / Venderwee

Data Item	Sample 1	Sample 2	Sample 3
Index ID	CS- 20004 <sup>MDH 12/10/04</sup>	CS- 20005 <sup>MDH 12/10/04</sup>	CS- 20006 <sup>MDH 12/10/04</sup>
Location ID	SP- 126483 <sup>MDH 12/10/04</sup>	SP- 126484 <sup>MDH 12/10/04</sup>	SP- 126485 <sup>MDH 12/10/04</sup>
Sample Group	<u>Property</u>	<u>Property</u>	<u>Property</u>
Location Description (circle)	Back yard <u>#9 Fairway</u> Front yard Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard <u>#9 Fairway</u> Front yard Side yard Driveway <u>Other Tee</u> <sup>MDH 12/10/04</sup>	Back yard <u>#1 Ladies tee</u> Front yard Side yard Driveway <u>Other Fairway</u> <sup>MDH 12/10/04</sup>
Category (circle)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)	<u>FS</u> FD of _____ Field Blank (lot or equipment)
Matrix Type (Surface soil unless other, else noted)	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____	<u>Surface Soil</u> Other _____
Type (circle)	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____	<u>Grab</u> Comp. # subsamples _____
Sample Time	<u>1113</u>	<u>1120</u>	<u>1335</u>
Top Depth (in.)	<u>0</u>	<u>0</u>	<u>0</u>
Bottom Depth (in.)	<u>1</u>	<u>1</u>	<u>1</u>
Field Comments Note if vermiculite is visible in sampled area	BD- <u>004342</u> <u>No LV seen</u>	BD- <u>004342</u> <u>No LV seen</u>	BD- <u>004342</u> <u>No LV seen</u>
Entered (LFO) <u>JP</u>	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____	Volpe: Entered _____ Validated _____

For Field Team Completion  
(Provide initials)

Completed by

QC by JP

**TARGET SHEET**  
**EPA REGION VIII**  
**SUPERFUND DOCUMENT MANAGEMENT SYSTEM**

DOCUMENT NUMBER: 2031336

SITE NAME: Libby Asbestos

DOCUMENT DATE: April, 2005

**DOCUMENT NOT SCANNED**

Due to one of the following reasons:

- ☐ PHOTOGRAPHS
- ☐ 3-DIMENSIONAL
- ☒ OVERSIZED
- ☐ AUDIO/VISUAL
- ☐ PERMANENTLY BOUND DOCUMENTS
- ☐ POOR LEGIBILITY
- ☐ OTHER
- ☐ NOT AVAILABLE
- ☐ TYPES OF DOCUMENTS NOT TO BE SCANNED  
(Data Packages, Data Validation, Sampling Data, CBI, Chain of Custody)

DOCUMENT DESCRIPTION:

Cabinet View Country Club Site Features and Soil Sampling Results  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_